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THE ANNUAL GENERAL MEETING.

The annual general meeting will take place on Wednesday next, and it is to be hoped that country practitioners, for whose benefit the hour has been altered to 2 p.m., will mark their appreciation of the arrangement by assembling in force. Probably the meeting will be a quiet one, but a good attendance of members would at least indicate interest in the work of the Council. That work is summarised briefly—perhaps, indeed, rather baldly—in the Report; and, speaking generally, we think that our representatives may fairly be congratulated upon their record for the last twelve months. Nothing sensational has been done or attempted, but the interests of the profession appear to have been carefully watched, and a substantial addition to our invested funds is certainly satisfactory.

Undoubtedly the Derby will keep some members away from the meeting, but that need not, and should not, prevent attendance at the dinner. From Epsom to London is an easy journey, and every practitioner who has spent the afternoon enjoying "the national holiday" should finish the day at the official banquet of the R.C.V.S. We have often called attention to the benefits which may be derived from taking part in the few social functions of the profession. We revert to the subject once more to express the hope that our colleagues will not neglect this one.

DISEASES OF ANIMALS.

The returns we publish this week in tabular form on page 782 are most disheartening. For the week ending May 25th there were 31 outbreaks of anthrax, and the total number from January 1st to date was 501—a prevalence of disease greater than in any of the last three years.

Swine fever shows 79 outbreaks for the week, and 953 outbreaks during the 21 weeks of this year—a greater prevalence than has been registered for three years.

Glanders though only credited with 24 outbreaks gives 106 as attacked during the week—a number we have never before seen reached. For the 21 weeks there are 910 animals attacked, which is an increase over the last two years.

That anthrax, swine-fever, and glanders should all show increased prevalence can only be explained on one hypothesis, viz., that the regulations and methods of the Board of Agriculture are insufficient. We prohibit Canadian cattle from coming into this country for fear of disease which does not exist. We allow hair and wool from China, Persia, and other places to enter free whilst knowing that nearly every cargo introduces anthrax.

As to glanders, the apathy is simply wicked—no provision being made for the in-contact horse, which is infected and dangerous.

Swine-fever is fast becoming a source of ridicule, and if nothing more can be done the Board had better remove all restrictions and confess their incapacity.

It is curious that the prevalence of disease among animals seems never to attract the attention of Parliament.

AN IMPORTANT PROPOSAL.

During the last two or three years we have heard much vague talk regarding the desirability of fresh legal powers being obtained by the profession. The matter has not yet passed beyond the speculative stage, but an attempt is made to bring it forward in a form sufficiently definite to admit of serious discussion. We have just seen a paper by Mr. Garnett, of Windermere, which is being circulated amongst the members of the Central V.M.S. This will be discussed at the Society's meeting on Thursday evening next, and has been sent to the members with the object of affording them an opportunity of giving some consideration beforehand to the proposals it contains.

The paper is fairly described by its title—"A Forecast for a New Veterinary Surgeon's Act." After giving a brief outline of the main provisions of the Acts and Charters we already possess, the author proceeds to advance a series of suggestions for additional legislation, explaining, in some cases, his reasons for proposing reform. Many will probably be inclined to regard Mr. Garnett's programme as being too ambitious. At present we refrain from any detailed criticism, and merely call attention to the meeting of the Central V.M.S. as worth even a lengthy journey to any practitioner interested in the progress of the profession.

While wishing Mr. Garnett a large audience and an intelligent discussion, we may also congratulate him upon the method by which he has chosen to initiate his project.

To obtain either an Act of Parliament or Royal Charter is a difficult and expensive undertaking, and it follows, therefore, that any such attempt should be carefully thought out and discussed before active steps are taken. There is a very general impression amongst us that fresh legislation is needed; but undue haste in conception might lead us, on the one hand, to attempt impossibilities, or, on the other, to overlook desirable reforms which are perfectly feasible. Preliminary discussion of the matter by the professional societies, before it is actually taken in hand by the Council, will lengthen the period of consideration, and may help us to avoid these pitfalls. For this reason, if for no other, Mr. Garnett has acted wisely in bringing his proposals, in the first place, before the profession rather than before the Council.

MONSTROSITY.

I have enclosed the photo of a calf with two heads which I took from a heifer, the first calving on the 8th ult. Being of very rare occurrence, and the first in my experience (and I trust the last), I thought it might be an interesting specimen for your journal. As may be seen by the photo the calf was fully developed, and I should say was alive up to a very short time previous to delivery, the heads, body, and legs were quite natural, with the exception of a curvature of the spine and bent conditions of the hocks. Delivery was effected by cutting off one of the heads in utero. Heifer made a good recovery.

R. E. L. PENHALE.

Torrington, North Devon.

ABSTRACTS FROM FOREIGN JOURNALS.

MULTIPLE SARCOMA IN THE SKIN OF A COCK.—By Prof. REGENBOGEN, of Berlin.

A two-year-old cock (partridge coloured Italian species) was sent to the Clinique with the history that he had been suffering from swellings for about six weeks. At first they affected the head, but afterwards spread over the whole surface of the body.

Examination showed fair condition. He seemed lively and strong. Food taken well. Striking changes of form were visible at the head and neck. The bulb of the left eye was not visible, the space between the lids being occupied by a round tumour 4 cm. (1 3/5th inches) in diameter. This tumour extended over the upper and under eyelid, it bridged over the inner and outer canthus and was ring shaped, thick irregular shape. Its surface was rough. At the middle appeared dark brown encrustations. The tissue underneath was destroyed by the tumour. The periphery of the tumour showed the colour of the skin thrown up in bubbly spots. The swelling extended to the comb upwards, to the lobe of the ear downwards, and to the left angle of the beak forwards. The tissue of the tumour stretched deeply into the cavity of the eye. The bulb was destroyed. At its bottom half under the lobe of the ear were two further smaller, sharply defined swellings of 2 to 2·5 cm. in diameter. They spread over the skin for 1 cm. and showed necrosis at their centres. Also here the central necrosed area was surrounded by a peripheral bubbly, nobbly zone. At the posterior edge of the neck were five further nobbly swellings partly above one another, and partly near one another, of a diameter of ¾ to 1½ cm. Some of these showed no necrosis. On the left side of the neck externally and posteriorly eight great tumours were visible. The right eye was spared.

Under the lobe of the right ear, at the anterior edge of the neck, was a long roundish tumour 5½ cm. long and 4½ cm. in diameter. It was necrotic in the middle. At its periphery were little daughter tumours There were three further pea-sized nodules showing no ulceration behind and above the lobe of the right ear. There were five large swellings in the skin of the back and neighbourhood of the loins and sacrum.

On section the tumours were greyish white, smooth, and fatty. Microscopic examination of sections after embedding in paraffin and staining with hæmatoxylon-eosin showed small round cells. Between these was a scanty and fragile reticular ground substance. The vessels could be seen as thin walled canals between the cell masses. Round celled sarcoma was declared. The most careful examination of the internal organs revealed no tumours.

In literature I have only seen one account* of a similar tumour in the skin of a hen, and there it was described as medullary carcinoma. Here there was metastasis and the serous covering of the liver was affected.—Ex. *Berliner Thierärzt Woch.*

G. M.

TRYPANOSOMIC INFECTION BY PASSAGE THROUGH THE MUCOUS MEMBRANE OF THE DIGESTIVE TRACT.—By W. L. YAKINOFF and NADINE SCHILLER.

These observers have experimented with rabbits, guinea-pigs, rats, mice, and one dog. Substances rich in trypanosomes (nagana, surra, dourine, el debab, and Lewisi) have been given to the above-named animals as food, or artificially introduced into the stomach with all necessary precautions against injuring the mucous membrane. The experimenters give the following summary of their results:—

1. Trypanosomic infection can be accomplished by passage through the mucous membrane of the digestive tract.

2. Diminution of gastric and intestinal peristalsis contributes to the success of infection by the digestive passages.

3. Neutralisation of the gastric juice is not of great importance for success.

4. Hunger does not play an important part in the infection.

5. The trypanasomes Lewisi and d'El debab are the most apt to cause an infection by the digestive passages; those of Nagana, Surra, and Dourine show a lesser degree of aptitude; those of Mal de Caderas have not given positive results in these experiments.

6. All the species of laboratory animals which have been employed, except white mice, have shown themselves capable of being infected by the passage of the trypanosomes through the mucous membrane of the digestive tract.

7. The experiments proved grey and white rats, and the dog, to be the most susceptible animals to this method of infection. Rabbits and guinea-pigs were less susceptible, and white mice, finally, were *not* susceptible.—*Zeitschrift für wissenschaftliche Veterinärmedicin und practische*, (Dorpat).

W. R. C.

CONTRIBUTION TO THE STUDY OF MAMMITIS IN THE COW.—By MONS. H. CARRÉ, Chief of the Research Laboratory for Infectious Diseases, Alfort.

Only two specific forms of mammitis are recognised in the cow, one due to the bacillus of Koch, the other to the streptococcus of Nocard and Mollereau. Inflammation of the mammary gland, well investigated by Guillebeau and by Lucet, may result from various micro-organisms, from one alone or from a mixed infection; but the inoculation of pure cultures of these microbes experimentally will not produce mammitis.

The microbe which is the subject of this note cannot be identified with either of the pyogenic organisms of the ox, strictly so-called, nor with any of the various microbes noted and described in inflammation of the udder. Pure cultures produce, on injection, an intense typical mammitis.

In November, 1906, my friend and *confrère* Pierrot, of Stenay, submitted for my examination purulent milk coming from cows attacked with mammitis of a contagious character. The first case occurred in the month of June, a cow was found with one of the quarters inflamed; the milk decreased and was soon reduced to a few cubic centimetres of a serous liquid in which were small rouleaux (*tortillons*) of pus; an indurated nodule of the size of an apple was found at the base of the teat.

In September this beast appeared to be cured, and was returned to the herd. Some time after the milker reported another case of mammitis, then two others in which the quarter remained indurated and was lost; later two other cows were attacked, but less severely, for they regained all their milking capacity.

Microscopic examination of the altered milk shows an abundance of small bacilli exceedingly slender, something like the bacillus of *rouget* in the pig. These bacilli are gathered in small rouleaux, situated in the plasma or enveloped by the phagocytes. The bacillus takes all the aniline colours, and retains Gram tenaciously.

The pus was sown on gelose, gelatine, potato,

* *Nek Weiszkopt Wchuschrift Thierheilk*, June, 1882.

and in bouillon; but in view of the very rich culture found naturally in the udder, I tried milk also—and this latter alone gave a positive result. Gelose and bouillon will give cultures on the addition of milk, or of serum from the cow or the rabbit.

Cultures.—On gelose-serum, in 24 hours we get very fine translucid colonies, scarcely raised above the surface and which may easily be detached from it.

Bouillon-serum does not thicken, but very fine greyish particles, form and remain suspended in the liquid; then these particles fall to the bottom of the tube forming a precipitate which for the first day or two may be dispersed by long and violent shaking. Later, shaking only produces a long, greyish mucous filament.

Milk is coagulated in 3 to 5 days, in a fairly consistent mass: we never found the least development of gas. The clot is soon partly redissolved and floats in a liquid having a strong acid reaction.

The cultures rapidly lose their vitality.

Inoculation.—Whatever the mode of introduction, the guinea-pig and the rabbit remain unaffected by the bacillus.

(2). One drop of culture injected into the teat of a cow provokes a rapid and violent inflammation of the quarter.

On November 3 I inoculated the right anterior teat of a cow with one drop of culture in bouillon-serum.

On the 6th there was a little diffuse induration at the base of the teat: on the 7th the entire quarter was reddened, engorged, hard, painful; the teat swollen, turgescent.

With difficulty we obtained 200 c.c. of a yellowish liquid holding in suspension purulent rouleaux. At the commencement of milking a slight crepitation could be felt. The pus contained the bacillus which had been injected, pure, and in large quantities.

Nov. 9th. The quarter has further increased in size, and is as hard as wood: the teat is firm, rigid: 30 c.c. of pus streaked with blood was drawn.

Up to 20th Nov. there was little further change. Little by little, after, the induration of the quarter diminished. On Dec. 6 this indurated nodule was not larger than a nut, but the quarter would yield only some drops of pus streaked with blood.

The general health of the cow was scarcely affected, and the appetite was maintained throughout: the only indication of the infection was a scarcely noticeable elevation of temperature.

(3) A goat, inoculated under the same conditions, similarly showed a violent inflammation of the gland, and the induration persisted longer than in the cow. Two months after inoculation the quarter still gave pus extremely rich in the bacilli. This pus injected in the teat of a fresh cow gave rise to an intense mammitis.

Subcutaneous inoculation of 20 c.c. of culture to the cow was not followed by any reaction—local or general.

Intravenous injection of 20 c.c. of culture in a pregnant cow caused no immediately appreciable trouble, but a month later this cow aborted with a calf of about four months. Blood from the heart of this calf sown in milk gave a pure culture of the bacillus inoculated in the mother. Neither the fœtal envelopes nor the fœtus itself showed the least sign of any lesion.

Does not the unforseen result of this experiment suggest to us how certain sporadic abortions may be brought about, and how an almost inappreciable affection of the mother may be a post-dated draft falling heavily on the fœtus.

By the digestive tract this bacillus is tolerated perfectly. A calf a few weeks old has sucked a cow infected with mammitis, of which the milk of one of the quarters was extremely rich in the bacilli, without showing the least disturbance.

Is this new microbe, which I propose to call *Bacillus mastitidis contagiosæ*, an exception amongst the organisms capable of producing mammitis?

Thanks to MM. Bigoteau, of Auneau, and Chrétien, Vét. Sanitaire of Seine, I have been able to examine eight different specimens of milk from cows suffering from mammitis. Twice I found this small bacillus: in one of them the altered milk constituted a pure culture of incredible richness.

The *Bacillus mastitidis contagiosæ* is not, then, an absolute rarity: but its recognition is only of limited practical importance, since the measures necessary to prevent its propagation and the therapeutic means indicated for inflammation of the udder are the same whatever may be the causal agent.—*Rev. Gén. de Méd. Vét.*, May 15.

W. H. B.

Infective Arthritis in Foals

Echard has tried to treat this affection by giving Iodide of potassium to the dam (20 grams a day).

Out of fourteen foals treated in this way twelve recovered and two died, one was slaughtered and the other died of acute meningitis. The mares were well fed and exercised, and seemed to tolerate large doses of Iodide without bad effects, only in some cases heat was arrested when due, and in some there was a variation in the milk supply.—*Woch. f. Thier. u. Vieh.*

F. E. P.

NORTH OF IRELAND VETERINARY MEDICAL ASSOCIATION.

A meeting of the North of Ireland Veterinary Medical Association was held in the Old Castle Restaurant, Belfast, on 23rd May, 1907. The following members were present: Messrs. J. J. Ross, A. M. Crichton, J. A. Thompson, Lurgan; H. M'Connell, Armagh; W. Dawson, Wm. S. Lamont, H. Gibson, James Lawther, R. Kernohan, J.P., J. Ewing Johnston, Jno. Kernohan, John M'Lean, and James Gregg. Several apologies were received.

Mr. Ross, the President of the Association, having taken the Chair, the Secretary read the minutes of the last meeting, and of the Sub-Committee called for the purpose of drafting rules, which rules were also read and passed.

REDWATER,

By H. M'CONNELL, M.R.C.V.S., Armagh.

Mr. President and Gentlemen, In acceding to the request of our Secretary that I should read a paper on some disease of cattle at this meeting, I assented, not that I have anything very original to bring to your notice, but because I consider it the duty of every member of an association such as this to do his share in helping forward the objects for which such Associations are formed, namely, promoting good fellowship amongst the members, interchange of opinions and of every-day practical experiences, and inviting friendly criticism and advice upon such matters as are in discussion.

My practice lies in a district where I have a good experience of the disease, and that is my excuse for bringing it before you. I hope a good discussion will ensue.

RED-WATER IN CATTLE.

It is my intention to consider only the disease known as Hæmo-albuminuria, Muir-ill, Black-water. The common terms used by farmers and cattle owners here are Murrain, or bloody murrain. Although in this age of ours all works treat largely of micro-organisms, the most important part to the practitioner is the clinical aspect of the different diseases. Yet we cannot afford to lose sight of the purely scientific side, for clinical observations and scientific work re-act upon each other.

In the different writings on pathology we have a great variety of opinions regarding this disease. One writer describes the disease under two forms—parturient and non-parturient. Another says that it is a disease of milk-cattle, and very seldom seen in young stock. Another writer says that it is seen always on pasture-lands, and never in stall-fed animals, and I saw that a writer on the disease said that he never came across a bull or a bullock affected with redwater in one form or another.

We read in the second edition of Thompson's Veterinary Lectures, "the disease is mostly found affecting cows, yet I have seen two cases in the horse. These animals had been grazing on pasture on which redwater was very prevalent, several cows on the pasture being affected at the same time. The disease, although due in the first instance to some peculiarity of the food, may be regarded as a deterioration of the blood due to want of the normal quantity of saline matter in the food."

Steel, in his second edition, says, "It is a disease affecting cows just before or after calving; generally on or about the fourteenth day," and in that same edition Dr. Berry describes a specific bacterian organism found in the blood, and said to be infectious through the food or drink contaminated by the droppings from a diseased animal.

Dr. Dalrymple, of the Experimental Station, Louisiana, was of the opinion that probably the disease known as redwater in this country was a modified form of Texas fever and due to the same cause, namely, the presence of a pear-shape organism in the blood, called from its shape, a pyrosoma or pyroplasma. This theory was sustained by Prof. Mettam, who demonstrated this parasite in the blood of several cases of redwater, both in his locality and from the blood of typical cases forwarded for examination.

Prof. Mettam, writing on this disease, says, "It was, and, amongst men not trained in veterinary science, is still ascribed to some irritant taken with the food while at pasture. Long, rank grass has been blamed, and also the feeding found in marshy, low-lying districts subject to flood, but we have seen that the disease is due to the presence in the blood of a parasite, and naturally the question arises, How do the parasites gain access to the blood? The parasite is spread by inoculation, by the bite of the tick, so that for redwater to be perpetuated, cattle and ticks are necessary."

Some pathologists go so far as to say that the larvæ can transmit the disease, showing that the infection can pass from infected tick through the egg to the next generation. It seems to be a proved fact that the piroplasma bovis, the blood parasite of redwater in cattle, can be transmitted through all stages of the life cycle of the tick, from mother to the egg, thence to the larva, nymph, and perfect tick again. Of course, the ticks do not produce this parasite themselves, but become infected from diseased cattle and then pass it on.

If I remember right, this parasite was also demonstrated in cases through England. At the present time pathologists all over the world are working firmly to find out how disease is spread. They are enquiring into the life-history and habits of the organisms which cause disease, and year by year show some advance, some new discovery throwing further light on the way in which disease is caused, and the manner in which it is transmitted from diseased to healthy animals, and within this last number of years quite a long list of diseases are known to be carried and inoculated by insects, both in the veterinary and medical practice.

Do not take it, gentlemen, that I am here simply to advocate this parasite theory, nor to admit the spread of this disease by inoculation, but from my practical observations I do say that redwater is a disease common to the bovine tribe of all ages and sexes, appearing all times of the year, especially at the end of summer and during the autumn months, most cases following heavy rain after a spell of dry weather, and that it may attack every man's cow, rich or poor, due to some error in the diet, favoured by the locality and the admospheric influence, It is generally ushered in by extreme diarrhœa and characterized by the emission of a dark-red or black-coloured urine.

The etiology of the disease seems obscure. In my college days I was taught that the disease originated from an impoverished condition of the blood, due to want of proper food, and that it was principally found on poor and undrained lands where the grass was of a sour nature. In fact the disease was described as "a disease of the poor man's land." I think the first change we can observe is a gastro-enteric disturbance which brings about a change of the blood, and owing to this mal condition of the blood a disturbance of the daily functions of other organs take place—as congestion of the liver, irritation of the mucous membrane of the intestinal canal, paralysis of the intestines and the very great irregularity of the heart's action.

The disease seems to prevail in an enzootic form in some localities, and on certain pastures and not on others, even in the immediate neighbourhood. Age, breed or sex seems to have nothing whatever to do with it, for I have had the disease in cattle of all ages from three months old, upwards. Year by year the disease seems to spread out, so that there must be something in the herbage, drainage, etc., of the lands to favour the development of the disease. There are certain pastures in my district where it is well known that so sure as you put cattle on them, so sure will these cattle have the disease. I know several grazing farms which cannot be let for cattle, owing to the danger of redwater. Another farm is grazed by the owner each year, and not one of the cattle escape at some month of the year. This gentleman was advised to purchase his store cattle reared about the locality, as they would have acquired a certain amount of immunity. Yet those stores took it all the same that year and on the same farm. I have attended cattle with the second attack, so that an attack of redwater does not confer complete immunity. At the same time I must admit that one attack does confer a very high degree of immunity.

In 1901 I had a very large outbreak on a grazing farm. The lands were used in early spring for sheep, and in about three weeks after the removal of the sheep some

64 cattle were put on, principally milking cows, and in less than two months 26 had passed through the disease. I had them moved to another farm about three miles off, kept them under close observation, and within a week seven cases followed. The outbreak then ceased, and on neither of the farms have I known a case since.

On the 6th of the present month I was requested to see a cow, and found she had redwater. The history of the case was that the owner never had redwater, the cow was purchased in October, 1906, was housed in November and never out since. The hay grown on the place was all used, and five days previously the owner purchased a load of hay from a district and farm badly noted for redwater. I administered a nice purgative dose and on the following morning the cow was cudding, urine almost normal in colour and that evening the cow was in her usual health. Might I ask, gentlemen, How did this cow get inoculated, and what became of the parasite?

One of our present lecturers on pathology says there appears to be two conditions under the same name (1) that caused by the piroplasma, inoculated by the tick, (2) in default of the discovery of any organism usually described, that due to dietetic errors.

Symptoms.

Very often the first symptom observed is the emission of the bloody urine, but in the more pronounced cases you will observe a staring coat, and if the animal is out it will isolate itself, cease to feed and ruminate, and appear empty. Generally lies and does not care to be moved. You will observe often the animal will eat soil. On closer examination we find the respirations hurried, the pulse rapid, jerky and weak, the heart going very fast, 80—100 and upwards. The heart's action is a very characteristic symptom of the disease, and in many cases you can hear the sound some distance from the animal. In many cases we find no great rise of temperature, yet in some cases the temperature goes up as high as 106°. There may be constipation, but in the majority of cases you have a profuse diarrhœa. If the animal is milking we find a falling off in the quantity, and often the milk is of a red tinge, owing to the blood-colouring matter staining the milk plasma; in some cases you do not see the tinge until the milk settles and you find the red sediment at the bottom. The diarrhœa may last for a couple of days, then we get constipation; appetite varies, sometimes the animal may eat during the disease. I notice in all female animals that the vagina has a tight contracted appearance. The most important symptom is the colour of the urine, this may vary from a dirty yellow to the colour of porter, and during the disease the quantity passed does not equal the normal quantity. The animal stands with arched back and passes the urine in a jerky fashion for three or four minutes at a time. Should the case prove a severe one all the above symptoms are aggravated, attended by a severe grunt; coma or delirium sets in, and the animal dies. If the case yields to treatment the temperature falls, appetite returns, rumination is resumed, and the urine takes on the normal colour.

As a rule the disease runs its course in four or five days, and if not treated ends in death from constipation and anæmia due to loss of blood, more particularly if the temperature runs high.

Prognosis.—If the animal is placed in the hands of the veterinary surgeon early in the disease the prognosis is very favourable as a rule. I have seen recovery in cases where the animal was down but the bowels were still operating.

Treatment.

I do not know any other disease of the lower animals with such fatal tendency where there is such quackery and disgusting drenches as in red-water. From the chemist to the amateur all sorts of men take upon them to treat the disease, probably owning to the fact that the diagnosis is easy. The symptom is treated, and the animal, the subject of the disease, is ignored. The one and only object they hold in view is to get the water turned, and to gain that object the most disgusting stuff is poured down the animal's throat, such as soap-suds, soot, pig manure, live frogs, etc.

The medicinal and hygienic treatment of the disease is very varied and often unsatisfactory. When placed in the hands of the veterinary surgeon the first thing to look to is that the animal gets proper nursing. Keep the animal in a good comfortable and well ventilated shed, administer a nice purgative dose, containing about 1oz. of common salt, place a bucket of water or of light bran or linseed gruel within reach, and I find if you place the under side of a sod of turf up, that in the majority of cases the animal will eat the earth. This in my opinion shows that there must be some gastric derangement. If the animal is inclined for food it is clear we must advise the most nutritious and easily digested. The following day use some good tonics, in the way of salts of iron, quinine, gentian, and even chlorate of potash. Other preparations used are linseed oil, rhubard and strychnine. Some treat with diuretics, as turpentine and potassæ nit.; while others consider the disease a Hæmaturia, and treat with styptics—as perchloride of iron, tannic acid in the form of stewed tea, and sulphuric acid. The Russian method I believe is to administer liq. plumbi acet. in ʒii doses, and to compensate for the loss of albumen in the urine albumen is administered in the form of eggs and milk. The treatment in Thompson's lectures is common salt in gruel, with the usual dose of hyposulphite or bicarbonate of soda dissolved in the drinking water, followed with ʒi doses of spirit. æther. nit. and balsam of copaiba, repeated every twelve hours.

Dr. Zeke, V.S., writing on the action of Ardrenalin in this disease, says: "I injected hypodermically one fluid ounce of 1 in 10,000 solution, and a few hours afterwards the urine exhibited no trace of red colour. The beast was more lively, and the heart's action no longer so stormy, the beats having gone down from 120 to 90 per minute. The stomach had again began to work, and the ears, horns, and extremities, which at the commencement were ice cold, exhibited the normal temperature. I gave another dose of ardrenalin, but no more was required. The cow improved day by day and on the fifth day had completely recovered."

On reading the above I thought a remedy had been discovered, but when I came to use the medicine practically I found my expectations blighted and my hopes destroyed. The first I used it on was a case only discovered an hour after calving. The cow was down, moaning badly, not cleaned, and almost pulseless. I used adrenalin, the cow died about fours after, and on making inquiries I found the cow had the disease four day's previously.

The second case I used it on was a half-bred Jersey cow in full milk, a perfect subject. The cow was chewing her cud, feeding, and showed no external symptoms except passing red water. I injected ʒi. of a 1 in 10,000 solution of adrenalin, and found no change next morning. I used the second injection, and found no change that evening except that the bowels were more constipated. I could not trust waiting another day so I at once administered a dose of purgative medicine, and the following evening the water was the normal colour and her bowels operating: the animal did well.

The third case was also a perfect subject. I tried adrenalin injections, but had to resort to my own treatment, and the purgative was administered almost too late, as the cow in about two hours afterwards started to grunt. However, the purge operated and the cow regained her normal health.

From my use of adrenalin I cannot praise it in this disease although I could in others.

There is one matter which I think should be mentioned, that is the sale of medicine for redwater by members of our profession to small country shops, to retail as "So-and-so's bottle, used with great success." This I think, gentlemen, is a most unprofessional act; teaching clients and even owners outside our districts to use the medicine and ignore the services of the V.S. If we go on selling vaccine as a preventive of black-leg, patent drenches for this so-called founder in cattle, and redwater cures, we may put the word surgeon out and insert the word chemist or veterinary compounder.

At the present time we do not know of any certain remedy for redwater, and it must be admitted, unfortunately that in most cases the V.S. is not called until it is too late. I do not know any other disease affecting cattle that requires the treatment so immediate as in this disease. The forcible administration of medicine as the disease advances is undoubtedly dangerous, and may result in choking, coma, and other less common conditions. The medicine at this time seems to act like a poison, and you may find the animal dead in two hours, probably after the administering of some simple draught such as nitrous ether, or linseed oil. If you grant that accidents of the above nature do commonly happen in this disease—and I find they do happen—what is the cause, and can we obviate them?

Some members present are aware that a vaccine only costing four pennies has been placed on the market both as a preventive against redwater and blackleg. I have no experience of a preventive vaccine, but within this last week I have treated several animals for redwater which had this preventive vaccine still in the dewlap, and I am sorry to say I treated with very little success.

Proper drainage, top dressing the pastures affected with crushed rock salt, and placing scattered lumps of it over the grazing is said to have a good effect.

Some men use a preventive draught of sulphate and hyposulphite of soda and ginger, given when the animal arrives on the pasture.

Redwater is very prevalent at present in my locality and it is with a view to eliciting information both pathological and therapeutic that I offer the above remarks.

I think we have still to ask the questions—What is redwater? What brings about the change in the blood? Have we an antidote or cure? or must we remain as in the past, expectant? The disease is of sufficient importantance to merit c onsiderable attention, for in this disease, as in some others, etiology and treatment lag behind diagnosis.

Discussion.

Mr. Crichton on rising to criticise the paper congratulated Mr. M'Connell on it, and stated that it must have caused him a good deal of study and research.

In regard to this disease called redwater we all know pretty well it is a disease that is what you call peculiar, at least I have found it so, because in the district in which I practice, especially round about Crumlin, Glenavy and Dundrod, and several other isolated places where it breaks out. There is a great deal of it, as Mr. M'Connell says, about at this time, and will be for some months yet. But there is one thing strange about it—Mr. M'Connell brought it out in his essay—that is, where it breaks out. You might have it on one farm, and right across along the other field not one of the cattle thereon would have it. Now how is that? If it was due to parasitic affection—due to any tick that gets on to the cattle—that the affection does not get right across the march ditch.

It is said it is due to a tick. I have seen cases many and many a time and have looked for the ticks and found none on the animal. Where did the redwater come from? On another occasion I have seen the ticks on the animals and not one of the animals had redwater. These things are difficult of solution. It is a disease that seems to me opens a good field for pathological research. It is said to be due to impoverished land, that is badly drained and where no nutritive grass grows. I am sorry to say I do not know the cause. I know the disease when I see it; while as regards the treatment of the land, treating the land with rock salt and top dressing I believe is a good thing; but before that is done undrained land ought to be drained as well as possible. As a rule it occurs on land on which that kind of spritt and miniature rushes grow. Then in regard to the treatment of the animal I find a purgative, the composition of which is something such as common salt, ginger, aniseed, followed with some stimulant is very good. There is nothing like good nourishment, because this is one of the diseases that require the greatest of care and the best of food. Another thing that is very good is to give the animal to drink, clay water—I find it is one of the best things to drink clay water—blue clay if it can be got.

Mr. Dawson thanked Mr. M'Connell for his very able address, and stated with regard to the tick theory he was very much in favour of it, and that he had very considerable experience. With regard to the treatment. He said: I do not follow either Mr. M'Connell or Mr. Crichton. My treatment is treacle, and if anything is added I add sulphur, with plenty of good nourishment, such as gruel and eggs.

Mr. Lamont said: I would side with my friend Mr. Dawson regarding the tick theory, and one of the principal reasons I have is that in the district where I practice all the cattle have been reared there. They never have to buy. They always have surplus calves to sell, and I have never known a case of redwater. Then about that case Mr. M'Connell reported, about the cow taking redwater in the stall. I had a similar case this past winter. I think she had been there about six weeks before she took it, but I thought it was something like ague, not redwater, and about the treatment of the disease, I think the nourishment is the principal thing.

Mr. R. Kernohan: I have very little to say. I have learned from hearsay more than anything else. I would be inclined to favour the tick.

Mr. J. A. Thompson first congratulated Mr. M'Connell on the paper he brought before the Association, and said. As far as the disease redwater is concerned, I may say I have been acquainted with the disease for a very considerable time. I must say that the large outbreaks always occur in large farms, demesnes, etc., on rushland and land generally covered with old grass. Those are the places I have found the worst outbreaks. No doubt I have seen a considerable amount of redwater where I saw no tick. A good deal of the redwater outside those farms have been in connection with cows that have recently calved and have been imported from Cavan and Leitrim, and places about that direction. And in those cases where the ticks are not just in the neighbourhood, it is very certain that they have been implanted in their systems before they left Cavan. Of course, so far as the symptoms are concerned, I agree with Mr. M'Connell, and the treatment I think is very varied. No matter where you go every man treats them according to his own ideas. I most often use iron and arsenic. Of course, you have to vary it with plenty of milk and eggs. From what I have heard I think it is a disease for which you have to vary the treatment considerably according to the district in which it is found and according to the general constitution of the animal.

Mr. M'Lean stated with reference to the treatment that Mr. M'Connell's was not much different from his own. The week before last he had a milk cow, ten days after calving, had the disease. The tick had something to do with it.

Mr. M'Connell thanked the members for their kind remarks with regard to his paper, and replied to the several speakers, and said regarding the tick being on animals, that if this tick is not picked up they cannot transmit the disease. There is no doubt the effect of the use of top dressing does away with the disease wonderfully. The treatment I use is salts, treacle, ginger, aniseed, carroway seed, followed up by stimulants. Regarding the discovery of this pirosoma in the blood, they find another disease with pirosoma, but I could not find out how they are going to distinguish whether it is the pirosoma of redwater. My opinion is, or rather the question is, was the pirosoma in the blood or is it one of the things that will follow as soon as the animal takes the disease.

The Secretary proposed a vote of thanks to Mr. M'Connell for his able and scientific address, stating that it was worthy of presentation before any learned veterinary Society. This was seconded by Mr. J. Ewing Johnston, and passed unanimously.

Mr. Crichton proposed a vote of thanks to Mr. Ross, for presiding, seconded by Mr. M'Connell.

Meeting adjourned.

Jas. Gregg, *Hon. Sec.*

A DEBATE ON VIVISECTION.

A debate was held under the auspices of the Organising Committee for Miss Lind-af-Hageby's Antivivisection Lectures and Debates on Thursday, May 16th, at the Portman Rooms, Baker Street, W., the subject being "Is Vivisection Necessary to the Advancement of Science and Medicine, and is its Practice in Accordance with the Claims of Morality and the further Development of Altruism?"

The chair was occupied by Sir David Brynmor-Jones, K.C., M.P., and the admission was free. The large room was filled to over-flowing, and the proceedings were frequently interrupted by cheering and interjections from various parts of the hall.

After some introductory remarks by the Chairman,

Miss Lind-af-Hageby opened on the negative side. She said vivisection was no new thing; it was practised by the ancients, so-called anatomists, of the Alexandrian school, and it had come down to prosperity that Herophilus dissected 600 criminals. In Italy, according to the researches of Professor Andreozzi, between 1545 and 1570 thirteen criminals were sent to Pisa by the Tuscan Government and were vivisected. In the judgment as to whether vivisection was an indispensable method, and in the proper consideration of its merits and demerits, it was essential that one should bear in mind that hundreds and thousands of vivisections had been performed in ancient times without bringing about great or important discoveries. During the first period of the revival of vivisection some sixty years ago the experiments were considerably more crude than they were at the present moment. The infliction of pain was thought but little of, and it was contended that science had a right to inflict any amount of pain for scientific purposes. The excuses now made for vivisection were altogether different. The first part of the question for discussion was whether vivisection was necessary to the advancement of science, and she answered that question in the negative. Her first scientific reason against vivisection was the extreme divergence in the results which were obtained by experiments on different animals. Sometimes one saw a frank admission, like that which Professor Starling had made before the present Royal Commission, of the fact that the final experiment must always be made on man. If that were so, the whole utilitarian argument fell to the ground. Every physiologist knew that every living organism possessed a physiology of its own, and that therefore the results of experiments upon one kind of animals, one species, could not be applied to another. Those differences were nowhere seen more clearly than in pharmacological research. The second great objection, from the scientific point of view, was the method of setting up disease and abnormal conditions, whilst physiology, the science of normal health, was being studied. The vivisector had to contend with two difficult conditions—either he must have pain, which vitiated the experiment, or he must have anæsthesia, which likewise vitiated it. The vivisectors were beginning more and more to see that fallacy. The fundamental fault of vivisection as a scientific method was that it had forgotten, and constantly forgot, the unity of the organism, the correlation of function, the mysterious and delicate harmony of the body as a whole, and it was only when physiology grew more philosophical that it would be raised to the rank of a more exact science than it was at present. She had not had time to go into what, philosophically and psychologically, was closely connected with the subject, namely the vitalistic view, the new vitalism, or that view of physiology which did not admit that all physiological phenomena could be explained on a basis of chemistry and physiology only. She believed that vivisection as a scientific method would be discarded by the twentieth century. On coming to the relation between vivisection and medicine one came to a subject which was so wide, so complicated, and so full of side issues that it was impossible for her, in a few moments, to do that subject justice. It was clear to all who used their eyes, that one of the most prominent features of the development of medicine was the decline of drugging, the decline of coarse medication, and also that there were two great tendencies in modern medicine which were signs of the future. One was the prevention of disease by sanitation. Another tendency was the introduction of more natural methods of healing, such as by electricity, by light, the Finsen light, and *x* rays, by all the lighter, more natural and less coarse methods which had been such a prominent feature in the development during the last twenty-five years. More attention was now paid to diet than had ever been paid before, more attention was now paid to the rules of health and to physical culture. She maintained that vivisection would be less and less needed in the science of medicine as those two tendencies were at work and as those tendencies changed. There were certain questions which were of paramount importance to the health of humanity, and the investigation of which by vivisectional methods was of paramount importance to the believers in vivisection. She referred to the question whether bovine tuberculosis was transmissible to the human subject. In 1901 a new Royal Commission on Tuberculosis was appointed, and that Commission had now sat for some six years. It has just presented another report. That question concerning the transmissibility of bovine tuberculosis to man was one which could be settled in a very easy manner. Inject ten imbeciles, ten lunatics. [Shame!] She begged her audience to wait a minute. But the Royal Commission on Tuberculosis had sat for six years, and investigated the question by a great number of experiments on the lower animals. She wanted to ask the upholders of vivisection why that question had not been settled in what seemed to have been the only rational and natural way. The answer was because such a method of settling that highly important question would be immoral, and therefore nobody dare stand up and advocate it. If those who believed in vivisection agreed that that was the reason why that plea was not put forward, and why that Royal Commission had, from the purely scientific point of view, wasted time year in and year out on experiments on the lower animals, whereas it could only be satisfactorily and quickly settled by experiments on human beings, then everyone would agree with her

that moral considerations were all-powerful, and that moral considerations were allowed to check vivisection. There was really no scientific and no medical aspect of the question, the question was purely and solely a moral one. Throughout the evolution of social morality there was one thin red thread which was very conspicuous—namely, that wherever mankind had judged of the rights and wrongs of a thing, there had been what she might term the lower immediate utility point of view, which it had been necessary to put aside for the greater and higher and further utility, and moral victories had always ultimately been victorious and triumphed on the physical and the material plane. If the ultimate was to reach a state where mankind was governed by the cultivated instincts of doing only to others what they would have done to themselves, then vivisection was doomed to extinction, and the result would be the production of a humanity which was merely wholly and intellectually sane.

Professor HALLIBURTON said that one of the disadvantages under which he laboured was that he had nothing sensational to place before his audience. There were some people who would believe a story, themselves not knowing anything about the rules of evidence, on very flimsy grounds, and the more horrible or the more unlikely the story, the more likely were some people to believe it. It had been said that physiology was an incomplete science. That was admitted by everybody. It was the fault which physiologists were doing their best to render a fault no longer. The whole of the agitation against vivisection rested upon the conception that it was cruel and therefore immoral. When death and disease were no more, then there would be no need for remedies, and that would be the time when experimental methods would be extinct. It was not, however, until those days arrived in the far and distant future, that Miss Hageby's prophecy was likely to be fulfilled. Did Miss Hageby know that the first to protest against cruelty in experimentation were the members of the medical profession? If one studied the medical newspapers between the years 1865 and 1870, it would be seen that the language employed there in reference to experiments which could not be defended was almost as vigorous as that which was being put forward by the various societies which were struggling in the hopeless task of abolishing experimentation. Vivisection was not cruel; as a rule it was not even painful. The use of anæsthetics in every operation except those which needed no more than a needle prick, was universal in this country, and the whole of the antivivisection crusade was based upon suspicion. The Parliament which passed the Act, the Home Secretaries who for the last thirty years had administered it, the inspectors who worked under the supervision of the Home Office, the Association for the Advancement of Medicine by Research who carefully considered every application—and in that way a great modification in the proposed experiments was produced—and the experimenters themselves, of course, felt the brunt of the suspicion. Why on earth should experimenters want to do away with anæsthetics? He thought the experience of the man in the street was that a cruel doctor was as rare as a swearing parson. They to whom he had alluded had no object in breaking the law, and they had no object in dispensing with anæsthetics. One sometimes had quoted against one the phrase "light anæsthesia." But that was an anæsthesia under which surgical operations were performed. Light anæsthesia did not mean that the animal felt pain any more than light anæsthesia under which a person had a tooth extracted meant that he felt the extracting forceps of the dentist. Curare was another bugbear of the antivivisectionist, but curare was not used as an anæsthetic. It could not now be procured pure, and when used it was always in conjunction with a true anæsthetic, and observations on the pulse and on the heart were quite sufficient to enable the experimenter to know whether an animal was completely anæsthetised or not. Curare might be an anæsthetic; he did not know, but there was no proof yet one way or the other. Physiologists had loyally accepted the provisions of the Act, which said that curare was not to be regarded as an anæsthetic, but on those rare occasions when it was absolutely necessary to use it a real anæsthetic was employed in addition. When he was speaking about inspectors just now he heard a voice say, "They never see any," and another voice said, "Sir Thornley Stoker." If the present inspectors paid but few visits, Sir Thornley Stoker was still remarkable, because he paid hardly any at all, and all his statements were based on the supposition that the Act was carried out correctly in Ireland. He had in his possession a letter from Prof. W. H. Thompson, of Dublin, who said:

> I know that no visits were paid to the physiological laboratory during the years 1902, 1903, 1904, 1905, and 1906, and it is also a fact that the pathological laboratory has not been visited for a somewhat longer period.

What did Sir Thornley Stoker say in reply to that? He said he spoke generally and not in reference to any particular laboratory. If he had not been into the school in question it was because he knew that all was regular and in order there. Professor Halliburton went on to say that he had had some difficulty in finding a satisfactory definition of "cruelty," but he would take one for the time being which was laid down by two of our great judges. Lord Chief Justice Coleridge commenced his argument by considering what was meant by cruelty. It was a case of dishorning of cattle. The excuse for that practice was that more cattle could be packed into a truck if they were dishorned. The Lord Chief Justice said the mere infliction of pain, even of extreme pain, was not sufficient to constitute cruelty. Men constantly inflicted pain upon one another or on the brute creation for the purpose of medicine or surgery, or under the sanction of Acts by way of punishment which was lawful, and in such cases it might be reasonably necessary. Mr. Justice Hawkins, another eminent antivivisectionist, who sat with him, quite agreed with that definition of cruelty. The decision was that the dishorning of cattle was cruel because it was unnecessary. Prof. Halliburton said that definition did not appeal to him; it savoured much too little of what he would call the milk of human kindness; it took into account too much the utilitarian and pecuniary benefit that would result. But if in the pursuit of knowledge and in the struggle against the sufferings which were seen all around in the world it was necessary to do experiments upon animals in order that the final experiment upon man, as Miss Hageby put it, might be performed, it must be remembered that the final experiment upon man was the application of what had been found. He would mention one or two cases: First, diphtheria. Owing to the discovery of an antitoxin to that disease the number of deaths per cent. from diphtheria had very greatly diminished. He would give the statistics from the Metropolitan Asylums Board Hospitals dealing with over 11,000 cases. In the years before the antitoxin treatment the percentage mortality varied from 59 per cent. to 30 per cent. In the first year of the antitoxin treatment it dropped from 29 per cent. to 22 per cent., and in the next year to 21 per cent. He would not give every year, but there was a steady diminution until 1905-6, which was the last for which he had any statistics, and then the percentage was only 8·3. He would read from the report of Dr. Foord Caiger, one of the principal medical officers of the Metropolitan Asylums Board. In that report he said the number of tracheotomies was now less than half what it used to be, and instead of the spectacle of a number of patients in great distress with swollen necks and blocked-up noses, fretful and crying, such cases were

now quite the exception, and in the few which one did come across, the condition lasted only a comparatively short time. It was quite unusual for a nurse to stay very long in charge of one of the diphtheria wards, because she found the work so depressing. But now these diphtheria wards were the most popular in the hospital, a change which was owing to the general aspect of the patient and the greatly reduced mortality. The greater number of his audience lived in happy, healthy homes, disease with them was but an incident, a painful incident, and death came but occasionally to their households. But with the medical man he was looking at disease and death every day, and all day long, and therefore could it be wondered at that he yearned to do something to relieve suffering humanity? Could it be wondered at that he also took into account the diseases from which animals suffered, and tried to alleviate those too? Take the case of rinderpest. That, owing to the pathological researches of Prof. Koch, had been practically exterminated in South Africa. Antivivisectionists looked at the few poor rabbits which had had the disease transmitted to them by inoculation, but they did not look beyond to the millions, or, at all events, hundreds of thousands of the cattle which were dying year by year. He admitted it was a choice of evils; but surely the disease might go on from generation to generation, and therefore was the attempt to stop it not to be made because of sacrificing a few animals for experimentation? That would come home to his audience when they were ill themselves. There was an immense amount of hypocrisy incidental to that antivivisection movement. And yet what was done was done with the highest motives on which a man could do anything in this world, and without any hope of pecuniary reward. They had been told by Miss Hageby that attention to diet and attention to hygiene were of great importance. But how were the laws of hygiene learnt without bacteriology? One sometimes heard the remark that cleanliness was next to Godliness, but what was known about true cleanliness until bacteria were discovered? Then as to diet, how was the knowledge concerning the action of different materials in the diet ascertained until people made experiments upon themselves and upon animals also? He wondered whether his audience knew what spaying meant, the removal of ovaries, an operation which was done in many women and with very beneficial results. It was done under antiseptic precautions and they had learnt all about anæthetics and antiseptics by experimentation first upon the lower animals. Yet that operation was done in animals by people who were not physiologists, and the corresponding operation on the male was also done in tens of thousands of cases in this country by farm labourers without any anæsthetics, in order to make mutton tender. When people wanted to use animals for their convenience, such as for the 'bus—and 'bus horses did not live long—and when people wanted to use animals for their sustenance, no attention was paid to Chicago horrors, nor yet when women wanted to use animals for their adornment. He went to a lecture by Miss Hageby in the winter time, and they were nearly all antivivisectionist friends there, and he never saw such a display of osprey in his life. He was showing that there was so much inconsistency in those who opposed vivisection, that when one came to serious arguments about the subject, it was very difficult to argue with such people at all. Miss Hageby, who advised physiologists how to do their work, and advised the medical profession how to do its work, did not know of, or, at all events, sneered at, such things as reflex action. One might as well argue with an engineer who denied the existence of electricity as with people on this subject who denied the existence of reflex action in an animal, and many similar things of the same kind. Before he concluded he desired to draw a lesson from all that. He held his watch in his hand, and he wished he had the imagination and the pen of a Kipling so that he might, as it were, write a little story of what the various wheels were saying to each other inside that little mechanism. Each one might be proud to say, "I am more important than you," and so on, but every wheel was necessary to the whole. And so it was in medical and physiologieal work. Some vivisection experiments upon animals might be likened to the mainspring of the watch, the others might be likened to a small wheel, but, still, each was as necessary as the rest; chemical investigation was necessary, microscopical investigation was necessary, observation at the beside was necessary, as well as observation post-mortem—all those had to work together, for without such unity the whole organism or machine could not do its work. So it was with physiological discovery. Vivisection might play a big part in one and a small part in another, but every part was absolutely necessary.

Mr. STEPHEN COLERIDGE said he wished to speak because Prof. Halliburton had alluded to a definition of cruelty given by his father, and he pointed out that when he uttered these words he was delivering a judgment, and he was citing the definition of cruelty in a certain Act of Parliament; it was not a deliverance of his own views about cruelty. But in spite of his having to interpret an Act of Parliament which he might not personally have agreed with, he apparently managed to condemn the people who dishorned cattle. Prof. Halliburton had said that a cruel doctor was as rare as a swearing parson. He (Mr. Coleridge) had never said that any doctor was cruel, and he had not attacked doctors. He regarded physiologists as a class altogether apart from doctors. He asked Dr. Halliburton to do his best to help him make other physiologists as humane as himself; that was all his Bill was before Parliament to enforce—it was an Act to enforce upon physiologist who were not as humane as Dr. Halliburton and others the humanity they themselves professed.

Miss HAGEBY, in reply, after several other speakers had made remarks, said Professor Halliburton asked why physiologists should want to experiment without anæsthetics. Her answer was that anæsthetics often interfered with the results of physiological experiments. If time permitted, she could have quoted to them twenty text-books which more or less expressed the same truth, that physiological experiments were frustrated by anæsthetics, and there were text-books which warned against the production of too deep anæsthesia. One of them was *Essentials of Experimental Physiology*, by Dr. Brodie, a text-book which did not even refrain from describing experiments without anæsthetics. Also there was Professor Starling's *Elements of Human Physiology*. She did not believe it was a fact that surgeons operated under light anæsthesia. In fact in 1902 there were some letters to that effect published in *The Times*, and there was a letter by Mr. Edmund Owen on March 12th or 15th, in which he said there were certain operations which could not be performed under deep anæsthesia, certain operations on the throat, the tongue, and so on. But he implied that all other experiments were carried out under complete surgical anæsthesia. Mr. Owen ended his letter by these remarkable words: "What is the necessity of laying bare to the public these horrors?" Why horrors if incomplete anæsthesia meant complete loss of consciousness? Prof. Halliburton had said the delicate apparatus used in experiments would break if the animals struggled. In the trial Bayliss *v.* Coleridge it was stated by the vivisectors that there were considerable movements in the dog—movements which it was true were referred to as being unconscious from their point of view, but nevertheless the movement of chorea—and some the witnesses for the vivisection side said those movements were very forcible. Why did not the

apparatus break? The answer was simply that there was plenty of indiarubber tubing which connected the glass tubes, and there would be very much movement required before such apparatus would break. Then there had been the usual sentiment from the vivisectionist side—that of the dying child. She spoke for a considerable section of antivivsectionists when she said that they did not consciously accept a friend of vivisection, nor were they terrified into moral cowardice when they were ill and when their children were ill. Prof. Halliburton said hygiene was not possible without bacteriology, but she begged to differ; it was sanitary engineering which had rid the world of the cesspols inside houses which disgraced London only fifty years ago, and the back to back houses which were the cause of so much filth and want of ventilation and which were the causes of much disease and many epidemics. Prof. Halliburton had stated that she denied reflex action, but she had never been responsible for such an absurd statement. Antivivisection was not a hopeless cause. That little fraction of the community who would defend it, and go on defending it, either with noisy or irresponsible shouts or with appeals to pure selfishness and pure egotism, were on the losing side, and she was on the side of humanity and on the winning side.

Prof. HALLIBURTON, in reply, said the usual method, which had been fairly successful in the past with a public even more incapable of forming an opinion than those who had taken a few lessons in physiology, was to start a story, the more unlikely the better, and although it might be contradicted, hope that the contradiction would not be seen. There was the story of the Gower Street dog running about with a tracheotomy tube in its throat, there was the story which the *Tribune* was inveigled into publishing about a cat which jumped off Prof. Starling's operating table. The newspaper had to apologize for that. There was a series of stories which were brought forward in the evidence by Mrs. Cook at the Antivivisection Commission, and a review said of those that almost every one of Mrs. Cook's horrifying cases seemed, when examined, to melt away. Yet those horrifying cases were still published in the appeals which were made by some of the antivivisection societies. There was a story which had been recently published, and which appeared in the last number of the *Animals' Friend*. From the evidence given by Sir Thornley Stoker, it appeared that he said:

> I have been told by reliable observers and physiologists that a monkey evinces the most acute sense of fear when it is brought into the room where it is going to be operated upon, and shows a great degree of terror. Prof. Purser, late Professor of Physiology of Dublin, is my informant on that point.

He would read Professor Purser's remarks about that:

> I can confidently state that I never told Sir Thornley Stoker that monkeys showed terror when brought into the operating room. The only explanation I can state is that I may have described to him the demonstration which I saw Prof. Ferrier give in King's College in 1881 on the occasion of the meeting in London of the National Medical Congress. The monkey shown was believed to be dead. To demonstrate this, a pistol was fired off behind the animal, who did not even turn his head or take any notice, but some other monkeys, who were on the other side of the room, were manifestly startled. The experiment was so striking that I spoke of it to several persons, and I may have mentioned it to Sir Thornley Stoker, but I can confidently say that monkeys never showed terror previous to taking the anæsthetic.

Still, that story was being published in the journals devoted to antivivisection and probably would continue to be published. There had been stories about the baking and freezing of animals, and he remembered some of those were published in connection with Professor Langley's work, until it was discovered that the parts of the animal that he had baked and frozen were parts of dead animal which he was embedding in paraffin, and using on a freezing microtome so as to obtain sections. Still, that statement was being repeated, and the correction, of course, was not likely to be seen. Another point in connection with the antivivisection movement was the abuse, not so violent as it used to be, which was levelled against men who were as good, if not better, than the antivivisectionists themselves. (Cheers.) He would take the case of Lord Lister. (Cheers and "He is a brute.") He was a man who had done more good with his little finger than the whole crowd in that room put together in the whole of their lives. And yet he was a man whom many of those present did not hesitate to call a torturer. There had been an example that evening in the attacking of Sir Lauder Brunton. He (Prof. Halliburton) hoped he had in his own composition a little of the milk of human kindness, but those who knew Sir Lauder Brunton knew that he was clotted cream from top to toe. He would say a word about the few medical men who differed from the rest of their fellows in being antivivisectionists. They were extremely few in number, and he said most deliberately and with the calmest conviction, that whenever a medical man posed as an antivivisectionist, he was at variance with the vast majority of his fellows, and against all that was best and wisest in the great profession of mercy which was known as the medical profession. Some might act in that way from love of notoriety, or from the mere sake of being peculiar. Luckily, they were few in number. But there might be some honest ones among them, if one stretched the word "honest" to it utmost capacity. But all such—and their motives he left to their consciences—were either consciously or unconsciously impostors. Every time a doctor felt the pulse he must know, or he ought to know, that the meaning of the pulse was made out by experiments on animals from the dawn of the knowledge of the circulation onwards to that day. There were instruments to-day, the outcome of experiments on animals, by means of which the pressure of the blood and of the pulse could be accurately measured and the condition of the heart and kidneys correctly diagnosed, and so correct indications for treatment could be obtained. If the medical man did not use those methods and many others which might be enumerated, he was imposing on his patients. Still less had he the right to act as a safe medical adviser if he refused to use anæsthetics and antiseptics, or the new remedies, of which antitoxin might be taken as a type; such a man calling himself a doctor was a danger to the community. He had already said that antivivisectionists had become less violent of recent years; they now reserved their pet epithets for their antivivisection parties. But a house divided against itself could never stand. He would merely say, in conclusion, that the antivivisectionist cause was hopeless. His hearers had probably heard of Mrs. Partington trying to keep back the tide with her mop. Well, the antivivisectionists might wave their mops; they might publish their little pamphlets; but it would have no effect in stopping the great inrush of knowledge, and, consequently, the agencies for the relief of human suffering which that knowledge would bring with it. (Loud cheers, accompanied by the singing of "For he's a jolly good fellow.")

The CHAIRMAN then appointed tellers to assist him in the count, and put the matter to the vote twice, when he declared that the "Noes" had it.—*B.M.J.*

DISEASES OF ANIMALS ACTS 1894 TO 1903. SUMMARY OF RETURNS.

Period.		Anthrax.		Foot-and-Mouth Disease.		Glanders (including Farcy)		Rabies. Cases Confirmed.		Sheep Scab.	Swine Fever.	
		Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Dogs.	Other	Out-breaks	Out-breaks.	Slaugh-tered *
GT. BRITAIN. Week ended May 25		31	37			24	106			4	79	338
Corresponding week in	1906 ..	27	30			26	45			2	31	143
	1905 ..	20	24			29	57			2	25	111
	1904 .	34	59			39	65			7	58	282
Total for 21 weeks. 1907 .. .		501	686			385	910			389	953	4757
Corresponding period in	1906 ..	426	652			452	856			277	505	2581
	1905 ..	446	638			499	903			631	317	1510
	1904 ..	456	721			608	1118			1034	587	3122

Board of Agriculture and Fisheries, May 28. 1907.

IRELAND. Week ended May 18		..	..	..	..	..	..	..	..	1	1	6
Corresponding Week in	1906 ..	..	..	..	..	..	..	..	..	3	4	29
	1905 ..	..	..	..	..	..	..	..	..	..	..	3
	1904 ..	..	..	..	..	..	..	..	..	2	1	112
Total for 20 weeks, 1907		1	3	..	..	..	..	..	..	158	52	926
Corresponding period in	1906 ..	2	2	..	..	2	8	..	..	136	28	415
	1905 ..	2	2	..	..	9	25	..	..	213	26	312
	1904 ..	2	2	..	..	3	18	..	..	351	75	1216

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, May 23, 1907.

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

AN ACUTE INFECTIOUS CONDITION (? GLANDERS).

By HAROLD T. MARRABLE, M.B., B.Ch., Dub., Surgeon to the Church Missionary Hospital, Isfahan, Persia.

The patient, aged 29 years, a carriage driver, between Isfahan and Shiraz, was admitted to hospital on Feb. 16th of this year. He gave the following history. A fortnight previously while on the road he got a severe attack of shivering and fever, which was followed four days later by pain and swelling of both feet. On the 12th, that is, four days before admission to hospital, he became much worse. On admission to hospital the following features presented themselves. The patient, obviously very ill, was unable to walk. Both his feet and ankles were considerably swollen and very painful; his right hand and lower part of forearm were similarly affected. He had a bad cough and some bronchitis; the lungs were clear. He complained of frontal headache and moaned incessantly. The temperature was 102·6° F., and the pulse was 112. Thinking the case was one of acute rheumatic fever I treated him with salicin and ordered the painful joints to be wrapped up with cotton-wool. During the night his temperature came down to 101·2°, his pulse, however, was faster (124) and his respirations, which were 30 per minute on admission, were now 40. During the day (the 17th) numbers of small pustules, of the size of a pin's head, came out over his neck and chest, and his face began to swell towards evening. He was restless and tried to get out of bed during the night and his temperature, 103·6° in the early part of the night, again fell towards morning to 102°. His pulse was now 140 and his breathing was rather more rapid. The first symptom that gave any hint as to the true nature of the malady was an amber-coloured exudate from the nose, at first slight and later copious; this was on the morning of the 18th. Quinine, strychnine, and iron in large doses were administered at frequent intervals during the day and the patient was isolated. On the following morning (the 19th) the patient was much worse.

Large blebs came out during the day on his face and neck and, breaking down, exuded the same amber-coloured fluid that flowed from his nose. His face was extremely œdematous, while the swelling of his feet had somewhat subsided. Several patches of dulness appeared over his lungs and just before death, which occurred at 8 o'clock on the evening of the 19th, his temperature was 104·8°, his pulse was 160, and his respirations were 56.

I could obtain no history of an outbreak of glanders among the post-horses, but the disease does not infrequently occur, and little or no precautions are taken in Persia against its spread.

Isfahan, Persia.—*The Lancet.*

MEAT AND TUBERCULOSIS—SOME REFLECTIONS.

The mental digestion of the English people is generally regarded as being a somewhat slow but relatively sure process and at this moment the public mind is, as it were, ruminating over the last report of the Royal Commission on Tuberculosis, from which it must be inferred that the danger to the human subject from the ingestion of the tubercle bacillus of bovine type is a very real one.

In this article we must be content by the light of two reports which have recently been published, the one by Dr. W. Collingridge, Medical Officer of Health of the City of London, and the other by Dr. H. E. Armstrong, Medical Officer of Health of Newcastle, to deal with certain issues which are now pressing for serious consideration. Referring to the subject of the meat delivered in the Central Meat Market, Dr. Collingridge points out that there is a decrease not only in the home-grown but also in the American meat killed in this country, these two sources of supply comprising some of the best meat. There is, however, so far as the Central Meat Market is concerned, an increase in dead meat from Australia and from North and South America, from which places, we are told, butchers who sell low-priced meats are mainly supplied. Dr. Collingridge regards it as probable that this tendency will continue, as he thinks that the growing population of America will more and more absorb the finest produce of that continent. The Canadian supply, "though it can hardly be said that there has been improvement in its quality," is apparently increasing and the report before us expresses the opinion that before long the magnitude of the Canadian supply will render this country independent of the United States. In the meantime we are threatened with carcasses from Roumania and from Mexico, and the diminution of home-grown meat passing through the Central Market brings the proportions of British and sea-borne meat as 1 to 4. As regards the quality of the United States beef Dr. Collingridge speaks highly, but he is evidently far less satisfied with much of the pork which reaches this country in a condition which renders inspection carried out on arrival almost valueless. The importation of Chilian and Argentine beef is greater than ever, and any break in the supply disorganises the market. The supply of New Zealand beef is steady, and that from Australia shows an increase. Pigs from Australia are, generally speaking, good, but many of those from Argentina prove to be tuberculous. Now the meat coming from the Argentine Republic, Belgium, Denmark, Holland, New Zealand, and the United States of America bears labels indicating inspection before exportation and it appears that, owing to efforts made by the City Corporation, the quality of this inspection has recently undergone material improvement.

The question, however, arises as to what is the real value of this foreign inspection as compared with a rigid system in this country of inspection of the cattle both before and after slaughter in properly controlled abattoirs and it is probably with the object of bringing this point into prominence that the corporation has determined to abolish the private slaughter-houses at the markets under its control at Islington and to erect a public abattoir. Dr. Collingridge advises that all meat slaughtered there and found to be wholesome shall be so marked as to be recognised and appreciated by the public, and he thinks that this procedure would greatly promote the interests of the British agriculturist. Certainly the proposal is one which should meet with support on grounds of public health alone, and the economic aspect of the scheme is accentuated by the fact that at the Central Meat Market the proportion of British country killed meat has fallen from 22·7 per cent. in 1903 to 17·2 per cent. in 1906, while that of British town killed has declined from 6·8 per cent to 3·4 per cent. during the same period. In these circumstances it is obviously unscientific to adopt in regard to home produce severe restrictive measures while allowing foreign produce to obtain entry even although a label be attached indicating what may sometimes be little other than a perfunctory inspection, and Dr. Collingridge is taking a wise course in limiting his recommendations to the practicable. But a moderate programme such as this will not, we gather, satisfy Dr. Armstrong, who has recently compiled a somewhat remarkable report upon the subject of tuberculosis. In his view bovine tuberculosis should be eliminated from all British cattle by means of the compulsory application of the tuberculin test, all reacting animals to be "forthwith sterilised and destroyed." With the German "Freibank," an institution wherein the carcases of certain tuberculous cattle are rendered sterile and sold at a low price to the poor, Dr. Armstrong will have nothing to do. The 22,758 tuberculous carcases found in the abattoirs of Saxony, and 92·5 per cent. of which were passed as fit for food, should have all been destroyed, as the "doctrine of tuberculosis at any stage being 'localised' is false and mischievous and should be utterly abolished." Dr. Armstrong does not, however, deal adequately in this very comprehensive scheme of his with the vast supplies of meat which reach us annually from foreign countries and from our colonies, but it is this point which should in our view be frankly faced by all those who profess seriously to consider the problem of tuberculosis. The element of practicability must not altogether be lost sight of, and the proposal to place our home produce under all sorts of restrictions while admitting freely all foreign dead meat is not one which can be seriously put forward with the view to its adoption at the present time. The compulsory provision of public abattoirs, the increase of competent meat inspectors, and the closing of private slaughter-houses are much more likely to receive the support of the nation.—*The Lancet.*

Royal College of Veterinary Surgeons.

EXAMINATIONS IN SCOTLAND.

At a meeting of the Board of Examiners of the Royal College of Veterinary Surgeons, held in Edinburgh and Glasgow on May 17th, 21st, and 22nd. The following gentlemen passed their Final Examination:—

EDINBURGH COLLEGE

Mr. J. Anderson	Mr. A. Mackenzie
J. Andrew	F. W. Medlock
W. King Clark	A. Niven
F. Davidson	B. Selous
W. A. Grant	J. Taylor *
P. Haugh	T. Wilson
F. Macdonald	T. Wylie
J. Gillray McGregor	L. L. Steele

The following passed their Third Examination:—

EDINBURGH COLLEGE.

Mr. W. Brown	Mr. J. W. Morrow †
H. D. Gilmore	W. P. Ruthven
C. Johnstone	J. Robson
J. R. A. Jones	P. T. Saunders
W. Kennedy *	J. J. U. Soutar
R. G. Linton	J. C. Storie
A. Matthew *	G. Woods.
R. H. Miller	

GLASGOW COLLEGE.

Mr. Donald Campbell	Mr. F. J. M'Call *
Duncan Campbell *	J. Rae
P. A. McCorry	

LIVERPOOL COLLEGE.

Mr. C. O'Gorman.

The following passed their Second Examination:

EDINBURGH COLLEGE.

Mr. J. Anderson	Mr. W. M. Mitchell
G. F. Banham	G. G. S. Mower
F. Chambers *	E. J. Nicholson
D. R. Crabb	J. A. Robertson *
C. S. Hunting	B. A. Searby
J. A. McMenamin	J. H. Spruell
J. de Meza	C. S. Thomson

GLASGOW COLLEGE.

Mr. J. H. Crawford *	Mr. M. Mackay
G. McIntyre	J. O'Brien *
F. W. Hart *	Jas. F. Taylor *
J. Waddell	

The following passed their First Examination:—

EDINBURGH COLLEGE.

Mr. W. Aitken	Mr. J. B. Idle
H. Allison *	K. C. Lacey
J. U. Cooper	W. L. Lornie †
J. L. Cormack	A. D. Macgregor *
G. Currey *	T. A. McClintock
H. Fraser	C. McRae
G. Fox *	J. Nicol
J. R. Greig	

GLASGOW COLLEGE.

Mr. P. Meikle	Mr. R. B. Alexander
J. Gibson	

Marked thus † passed with First Class Honours.
" " * " " Second Class "

Z. B. RUTHERFORD, M.R.C.V.S.
Secretary to the Board of Examiners acting in Scotland.

FELLOWSHIP EXAMINATION.

The next Examination for the Fellowship degree will be held at 10 Red Lion Square, London, W.C., on Saturday, July 27th, at 10 a.m.

The Thesis must be received at the Secretary's office on the 29th June.

For particulars and regulations apply to the undersigned.

FRED. BULLOCK,
10 Red Lion Square, W.C. *Secretary.*
29th May, 1907.

ROYAL (DICK) VETERINARY COLLEGE.

The annual distribution of medals and prizes to the students of the Royal (Dick) Veterinary College took place on May 20th in the College Buildings, Clyde Street, Edinburgh. Sir William Turner, Principal of Edinburgh University, presided, and there was a good turnout of students and their friends. Principal Dewar announced the winners of medals as follows, the medals being handed over to the successful students by the Chairman:—

Class A.—Highland Society's silver medal (Biology)—M. G. Fox. Bronze medal (Zoology)—A. D. Macgregor. Bronze medal (Botany)—Hazlett Allison. Cranston gold medal (Theoretical Chemistry)—Hazlett Allison. Highland Society's silver medal (Theoretical Chemistry)—J. N. Cooper. Bronze medal (Theoretical Chemistry)—W. S. Lornie. Bronze medal (Practical Chemistry)—M. G. Fox. Highland Society's silver medal (Junior Anatomy)—Hazlett Allison. Bronze medal (Junior Anatomy)—A. D. Macgregor.

Class B.—Anderson gold medal (Senior Anatomy)—W. M. Mitchell. Highland Society's silver medal (Senior Anatomy)—J. A. Robertson. Bronze medal (Senior Anatomy)—William Davies. Professor Bradley's silver medal (Practical Anatomy)—W. M. Mitchell. Bronze medal (Histology)—William Walker. Turnbull gold medal (Physiology)—W. M. Mitchell. Highland Society's silver medal (Physiology)—William Davies. Bronze medal (Physiology)—J. A. Robertson. Highland Society's silver medal (Stable Management)—B. A. Searby. Bronze medal (Stable Management)—J. H. Spreull.

Class C.—Harris gold medal (Pathology and Bacteriology)—J. W. Morrow. Highland Society's silver medal (Pathology and Bacteriology)—J. J. M. Soutar. Bronze medal (Pathology and Bacteriology)—William Brown. Professor Leighton's silver medal (Practical Pathology)—J. W. Morrow. Highland Society's silver medal (Hygiene and Dietetics)—J. W. Morrow. Bronze Medal (Hygiene and Dietetics)—William Kennedy. Highland Society's silver medal (Materia Medica)—William Kennedy. Bronze medal (Materia Medica)—John Robson.

Class D.—Dollar gold medal (Surgery)—Thomas Wilson. Highland Society's silver medal (Surgery)—Peter Haugh. Bronze Medal (Surgery)—Alexander Niven. Dryborough gold medal (Medicine)—Thomas Wilson. Highland Society's silver medal (Medicine)—W. King Clark. Bronze medal (Medicine)—A. M. Wylie. Silver medal (Obstetrics)—W. King Clark. Bronze medal (Obstetrics)—A. M. Wylie. Silver medal (Clinique)—Peter Haugh. Bronze medal (Clinique)—J. Gillray M'Gregor.

Macfarlane medal for best aggregate, presented by Mr. A. M. Macfarlane, veterinary surgeon to the Government of Malta—Thomas Wilson. Winner of the College Bursary of £21 for obtaining the highest number of marks during his curriculum—Thomas Wilson.

Edinburgh Veterinary Medical Association, Silver medal (Best Essay)—J. Gillray M'Gregor. Silver medal (Best communication)—James Anderson.

The Session just ended has been a most successful one. Members of the final year class especially distinguished themselves, 100 per cent. obtain their diplomas, while the passes in the other classes have been exceedingly satisfactory.

ADDRESS BY MR. A. INGLIS MACCALLUM, J.P., M.R.C.V.S.

Mr. Chairman, Ladies and Gentlemen, and Fellow Students,—Permit me to say a few words to those who have completed their curricula and are about to obtain their diplomas.

Your are about to begin the battle of life in real earnest. I trust you will do so with credit to yourselves and to your Alma Mater. How are you going to set about it? It is recorded that during the war between Russia and Japan it was found on the part of Japan that the care of the sick and wounded occupied but a small portion of the time of the Japanese medical officers. The solution of the great problem of the prevention of disease by the careful supervision of the smallest details of subsistence, clothing and shelter was the first and most important duty of the medical staff. Nothing was too small to escape their vigilance nor too tedious to weary their patience, and everywhere—in the field, with the scouts, or in the base hospitals at home—the one prevailing idea was the prevention of disease. The medical officers were to be found both in the front and in the rear. They were with the first screen of scouts with their microscopes and chemicals, testing and labelling the wells, so that the army which followed should drink no contaminated water. When scouts reached a town they immediately made a thorough examination of the sanitary conditions, and if cases of contagious or infectious disease were found, they placed a cordon around the quarters were they were. A medical officer accompanied the foraging parties and with the commissariat

officers sampled the various foods, fruits and vegetables sold by the natives before the arrival of the army. If the food was tainted or the fruit over-ripe, or if the water required boiling, notices to that effect were posted in suitable places. So strict was the discipline from the commanding officers to the rank and file that obedience to the orders of the medical officers was absolute. The medical officer also supervised the personal hygiene of the camp, how to cook, how to bathe, how to cleanse the finger nails so as to free them from bacteria, as well as how to live in general a healthy and vigorous life, and it was part of the soldier's routine to carry out these instructions in every detail, and as a result of this system, the medical officer was not obliged to treat cases of dysentery or fevers which follow from the use of improper food and the neglect of sanitation and the exposure in a foreign country. There was only a fraction of one per cent. of loss from preventable diseases. In the Boer war 13,250 soldiers and an enormous number of animals died from disease. It may be safe to conclude that the greater proportion of these deaths were due to preventable diseases. Now, gentlemen, here is an object lesson for you. The duties of the veterinarian of the future will be taken up more with the prevention than the curing of disease. Whether in civil or military life you must always be veterinary officers of health. How is this to be done? It may be summed up in the one word, "Hygiene," that is to say, in whichever part of the world you may be placed you must be able to guide your clients as to the prevention of disease in animals, as in the care of the food, water, air, climate, soil, habitations, ventilation, disinfection, the disposal of excreta, parasites, microbes, infection, care and general management of animals. You have obtained your theoretical equipment here; see that you put it into real practice.

I trust you will be diligent, methodical, sober, giving way to no mere routine, study your cases individually, and let each case have an original prescription suited to its individual needs. Never give up your cases by saying that they cannot recover. Remember the advice many of you gave me in your examination a few weeks ago about the horse with the broken jaws—"shoot it": the animal has quite recovered. Remember always while there is life there is hope. Time enough to give up your cases when they die; and where it is practicable never let your case end there, make a post-mortem examination to test your diagnosis and treatment. Never forget that by mistakes we learn.

Make no step-bairns of your clients; let each have their share of attention and respect; and if you err, let it be on the side of charity. Never neglect the cases belonging to poor people, as they will ofter do more for you than the rich; the cadger's pony is very often a matter of greater consideration to its owner than the animal belonging to the wealthy lord or noble earl.

Another thing you are not to forget, you must be students till the end of your days: in idle moments keep your reading and research work up-to-date.

It is only by such methods as I have sketched you can be really successful in the battle of life. Don't be always taking holidays, I consider it a bad practice. I knew a veterinarian nineteen years ago who saved up for twenty years for a holiday of seven months. Amongst the places he visited was Jeypore, one of the most European cities in India, and one of the best administered provinces in the Presidency of Bengal. There they have a splendid museum and institute built a few years before to commemorate a visit of the Prince of Wales, now our beloved Sovereign. What I wish to tell you specially about this place is that the building is beautifully emblazoned with Indian proverbs in large gold letters. They might be of interest and of use to you in your journey though life. They are as follows:—"How much soever you may study science, if you don't act wisely you are ignorant." "Highminded men delight in doing good without a thought of their own interest." "Rectitude is the means of pleasing God." I never saw anyone lost on a straight road. Therefore, try always to keep on the straight path. You and I have no assurance that even the strongest of us may attain to old age:

"So live, that when the summons comes to join
The innumerable caravan which moves
To that mysterious realm where each shall take
His chamber in the silent halls of death,
Thou go not like the quarry slave at night
Scourged to his dungeon, but sustained and soothed
By an unfaltering trust, approach thy grave
Like one who wraps the drapery of his couch
About him and lies down to pleasant dreams."

—*Bryant.*

THE ROYAL INSTITUTE OF PUBLIC HEALTH.

Patron: His Most Excellent Majesty the King.

DOUGLAS (ISLE OF MAN) CONGRESS.

29th June to 5th July, 1907.

President:
THE RIGHT HONOURABLE LORD RAGLAN,
Lieutenant-Governor of the Isle of Man.

Vice-President and Chairman of the Executive Committee.
HIS WORSHIP THE MAYOR.

Hon. Secretaries: ALEXANDER ROBERTSON, Town Clerk.
WILLIAM RICHARDSON, M.D., Supt. I.O.M. Asylum.

Dear Sir,

Enclosed please find copy of programme of the Veterinary Hygiene and Comparative Pathology Section of the above Congress, which please kindly insert in your paper. Will you also please announce that it is requested that the names of those attending the Congress be early sent in so that the requisite tickets, etc., can be forwarded to them.—Yours faithfully,

Town Hall, Douglas, A. ROBERTSON, *Hon. Sec.*

SECTION E.—VETERINARY HYGIENE AND COMPARATIVE PATHOLOGY.

Monday, July 1st, and Tuesday, July 2nd, 1907.

President.

J. B. Wolstenholme, Esq., F.R.C.V.S., Manchester.

Vice-Presidents.

T. Eaton Jones, Esq., M.R.C.V.S.
J. McKinna, Esq., F.R.C.V.S., Huddersfield.
W. Woods, Esq., F.R.C.V.S., Wigan.

Hon. Secretary.

T. S. Atkinson, M.R.C.V.S., Douglas.

Presidential Address:
J. B. WOLSTENHOLME, F.R.C.V.S.

Paper: "Milk," by Prof. ANNETT, Liverpool University.
Discussion opened by J. W. BRITTLEBANK F.R.C.V.S., Public Health Department, Manchester.

Paper: "Meat Inspection," by JAMES A. DIXON, M.R.C.V.S., Public Health Department, Leeds Corporation.
Discussion opened by W. KING, M.R.C.V.S., Vety. Inspector, London City Council.

Discussion: "The Qualifications of Meat Inspectors," Opened by WM. FIELD, M.P., Dublin.

Wednesday, July 3rd.

12 noon. Address to the Congress by
Sir JOHN COCKBURN, M.D., K.C.M.G.,
Late Premier of South Australia.

Glanders and Compensation.

It is to be hoped that the attention which is being called to the question of glanders will not be wholly without result. The country is known to lose 2,000 horses a year from this disease. As a matter of fact it probably loses many more. Two thousand horses alone, however, are sufficient to remount the Army. In cash the known loss is, since 1881, not far short of a million sterling. Obviously the disease can only be coped with by a system of notification and compensation. As to compensation, it is in dispute as to the scale on which the slaughter value of the animals which are killed should be reckoned. As to notification, the authorities have put up the backs of the "vets." by asking them to notify without the payment of the fee which medical men receive for doing similar work in respect of human patients. As veterinary surgeons are already resentful at the setting of medical men to inspect cowsheds, the situation seems to call for judicious handling. There can be little doubt that horses which are likely to develop glanders are freely sold in London for the provinces.—*Westminster Gazette.*

Motor-'Buses in the West End.

The Westminster and Southwark authorities have, in view of the serious damage caused to the roadways by the oil and petrol from motor-omnibuses, decided to draw the attention of the Commissioner of Police to the question. Other metropolitan borough councils are to be approached with a view to their taking similar action. It is stated that proceedings have been instituted by the Southwark Council against the various motor-omnibus companies, and adjourned on the undertaking of the companies' representatives that the nuisance should cease. No material improvement has, however, taken place; on the contrary, in many parts of the borough the nuisance has increased. On behalf of the Duke of Westminster, a petition from 100 residents of Eaton Square has been sent to the Westminster City Council, requesting that body to memorialise the Home Secretary, and ask him to use such powers as he possesses to restrain motor-'bus companies from sending their vehicles through Eaton Square. Numerous complaints of a similar nature have been received from other parts of the city. The Law and Parliamentary Committee report that it would form an undesirable precedent if the Council took action on behalf of the Eaton Square inhabitants. The City of London Electric Lighting Company complain that they have been put to considerable expense for repairs to street lamp-posts damaged by motor-omnibuses, and propose taking action in a test-case, which may be carried to the Court of Appeal, and possibly beyond.—*Land Agents Record.*

Personal.

M. Moussu, Professor at the Vet. School, Alfort, D. ès Sc., D.Med., has been selected to teach Experimental and Comparative Pathology at the College of France, during the illness of Professor Charrin. The appointment of a veterinarian to this high charge is without precedent, and is an event in the profession. In congratulating M. Moussu, we hope that he may some day occupy permanently the chair which is now entrusted to him temporarily.—*Rev. Gén.*

Councillor W. J. Foreman, Chairman Leadgate District Council, took the oath and his seat on the Bench for the first time last Monday.—*The Consett Guardian.*

Mr. W. G. Barnes, M.R.C.V.S., Vet. Inspector in the Sanitary Dept., Edinburgh, has been appointed Chief Vet. Inspector in the Public Health Department of the London County Council.

Obituary.

On May 25th, at his residence, 33 Warbeck Road, Shepherd's Bush, George Elliott Lovegrove, M.P.S., for about 30 years the trusted representative of Willows, Francis, Butler, and Thompson, Ltd., aged 56.

CORRESPONDENCE.

Re UNQUALIFIED ASSISTANTS.

Sir,

Your correspondent "Spectator" has, I am afraid, mistaken the veterinary profession. The days of making money out of veterinary practice are, in my humble opinion, gone. The dignity and social status which the profession gives ought to compensate him for his £500. In my mind it is not a question of keeping assistants, qualified or otherwise. The practices are few and far between which can support a principal without he has £100 a year of private money, and what the profession will come to in another decade we can only surmise. We must all (principals and assistants) earnestly pray that our omnipotent will give us day by day our daily bread.—Yours faithfully,

George Upton.

MYSTERY.

Sir,

Referring to the epistle of your correspondent "Crusty"—who certainly deserves to be congratulated upon his apt choice of a pseudonym—I notice he refers to a little point which has hitherto scarcely received the attention it deserves from the "anti-quackery" fanatics. He says "in the newer territories the agricultural journals are used for spreading knowledge—not for curtailing it."

If any exception can be taken to this statement, it is that it *understates* the truth. In "the newer countries"—whether or not they are under British rule—we often find veterinary knowledge disseminated *by Government* to an extent undreamed of in this conservative little island, and I have not heard that the popularisation of veterinary science has decreased the demand for veterinary practitioners. If anything, it seems to have had the opposite result.

I have just seen a copy (date 1905) of *The Agricultural Journal of the Cape of Good Hope*, which is published by the *Department of Agriculture* in that Colony. In this journal various sciences relating to agriculture—as botany, chemistry, and entomology—are treated, certainly in non-technical language, but at the same time clearly and well. Veterinary science also is expounded in a manner which would reduce an English professor of the school of assumption and mystery to frenzy. For instance, there is an article upon "Preventive Inoculation for Redwater," written by a M.R.C.V.S. evidently with the idea of enabling stock-owners to *carry out the process themselves*. There are contributions, and also answers to queries, by the late Mr. Duncan Hutcheon, who probably did far more than any other man to obtain recognition for the veterinary profession in South Africa, but who did not seem to think it necessary to withhold knowledge from anyone to whom it might be useful.

In the United States they "go one better." There *books*—goodsized ones too, not leaflets and pamphlets—are published by *Government* with the object of instructing stock-owners regarding the diseases of horses and cattle. One can imagine the outcry which a certain section of the profession would raise were similar measures taken in England—but it would be interesting to hear the opinions of men who have lived in these "newer countries" as to the effect of such publications upon veterinary practice.—Yours truly,

"Camden Town."

Communications and Papers received—Messrs. G. Upton, A. I. MacCallum, James Gregg, A. Gofton.

Spalding Free Press, Aldershot News, The Shields Daily News, The Consett Guardian.